

not exceed twenty genera, and fifty species; yet I have found at least seven tracks, (and were I to express my own convictions, I should say ten,) so distinct that they must have been made by different species, if not genera, and that too, in three or four quarries, that have been opened only a few rods square. I exceedingly doubt, whether any three spots of that size can now be found in the valley of the Connecticut, where the tracks of a greater number of the existing species of birds occur on the mud. Shall we then say, that the birds of the new red sandstone era were as numerous as they now are? Perhaps it would be unsafe, from such premises, to draw such an inference; yet, if any birds existed then, why may they not have been even more numerous, in a climate so favorable to their development, than at present?

I have met with only one account of any thing similar to what I have now described, and that is the statement of the Rev. Mr. Duncan, respecting the foot marks of a quadruped upon the new red sandstone of Dumfries-shire, in Scotland, ascertained with much probability to be those of a tortoise. Judging from his account, and the accompanying lithographic plate, in the eleventh volume of the Transactions of the Royal Society of Edinburgh,* I should infer that these impressions will not compare in distinctness, with those in the valley of the Connecticut. It is interesting, however, to learn, that tracks made on new red sandstone, on both sides of the Atlantic, have been preserved to the present day.†

I am aware that the presumption derived from geological analogies, is decidedly opposed to the facts and inferences, which I have presented in this memoir; for it goes to prove the existence of birds, nearest in the perfection of their structure to the Mammalia, among the very earliest of vertebral animals; a few saurians and fishes only having been discovered, as low as the new red sandstone.‡ Hence I expect that geologists, as they ought, will receive these statements and conclusions, not without hesitation and strong sus-

* For the loan of which I am indebted to the kindness of Dr. N. Bowditch.

† In a catalogue of scientific works that have been published within a few months past, in Europe, lately brought within my reach, I find one by Jabez Allies, printed in London, "on certain curious indentations in the old red sandstone of Worcestershire and Herefordshire, considered as the tracks of antediluvian animals, &c." but I know nothing more of these impressions, besides the title of this work.

‡ Tracks of mammalian or quadrumanian animals have been recently discovered in new red sandstone, in Germany. See our miscellanies.—*Ed.*